

Claims

[c1] What is claimed is:

1.A method for increasing the internal memory in a processor, the method comprising:

(a)providing an extended internal memory in the processor;

(b)adding bits to stack addresses with a stack pointer generator so that the processor is capable of accessing memory addresses larger than the bit width of the command set of the processor, and can use the extended memory as stack.

[c2] 2. The method of claim 1 further comprising:

(c) adding bits to data addresses and register addresses with an address extender.

[c3] 3.The method of claim 1 wherein the step (b) further comprising providing a high stack address, and storing the extra bits in the high stack address when the stack address exceeds the limit of the conventional memory.

[c4] 4. Themethod of claim 1 wherein the processor is a MCS series processor.

- [c5] 5. The method of claim 1 wherein the CPU processes an 8-bit command set.
- [c6] 6. The method of claim 1 wherein the conventional memory and the extended memory are in a same block of memory.
- [c7] 7. The method of claim 5 wherein the capacity of the conventional memory is 256-bytes.
- [c8] 8. The method of claim 1 wherein data, registers, and stacks share the conventional memory.
- [c9] 9. The method of claim 1 wherein the extended memory is only for storing stacks.
- [c10] 10. A chip for executing the method of claim 1.